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10/798,210	03/11/2004	Abbas Kadkhodayan	EI-7626	6154

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EXAMINER
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NGUYEN, NGOC YEN M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/798,210

Applicant(s)

KADKHODAYAN, ABBAS

Examiner

Ngoc-Yen M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 5, 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 9, 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiler et al (6,225,464).

Hiler '464 discloses that anhydrous manganese chloride can be made by reaction of manganese metal, carbonate or oxide and dry hydrochloric acid (note column 11, lines 9-11).

Hiler '464 teaches that for the most exacting purity, it is desirable to use a manganese chloride, which has been made by the anhydrous route from the pure metal (note column 11, lines 38-41).

Hiler '464 discloses fully anhydrous manganese chloride (note column 10, lines 61-62, column 11, lines 31-33).

The process and product of Hiler '464 anticipate the claimed process and product.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 6, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiler '464.

Hiler '464 discloses a process for producing manganese chloride as stated in the above rejection.

For the particle size of the manganese metal reactant, since the manganese metal and the dry hydrochloric acid must be in contact in order for the reaction to take place, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the particle size of the manganese metal to facilitate the reaction between the manganese metal and the acid and to produce the desired anhydrous manganese chloride.

For the reaction temperature and pressure, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215.

For the phase of the dry hydrochloric acid, it would have been obvious to use any phase of the dry hydrochloric acid, gaseous or liquid, as long as it can react with the manganese metal to produce the desired anhydrous manganese chloride.

Claims 5, 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed June 16, 2005 have been fully considered but they are not persuasive.

Applicants argue that in solution, hydrogen chloride is well-known and referred to as hydrochloric acid and in Applicants' claims, hydrogen chloride is a compound that is not in solution.

In Applicants' claims, the claimed hydrogen chloride may be required to be compound that is not in an aqueous solution, but the hydrogen chloride may be in non-aqueous solution (note claims 5, 7, 8). Thus, even if hydrochloric acid is a solution of hydrogen chloride, the hydrochloric acid can still be a "dry" (i.e., anhydrous) hydrochloric acid (note for example, Malen et al, 3,681, 400, Example 1, column 3, line 20 or Boissier et al 3,719,679, column 10, lines 25-26). Moreover, the "dry hydrochloric acid" as disclosed in Hiler '464 can be a gas (note Kessels 5,504,250), column 3, last two lines).

Applicants speculates that the use of the term "anhydrous" in Hiler is a relative term meaning relatively more anhydrous as compared with the earlier reaction described in the preceding sentences in Hiler because by definition, hydrochloric acid requires water.

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In Hiler '464, it is clearly disclosed that in order to produce anhydrous manganese chloride, an anhydrous route was used, i.e. reacting pure metal with "dry hydrochloric acid" (note column 11, lines 9-11 and 38-41). There is no indication that the term "anhydrous" is a relative term. Furthermore, as stated above, and as evidenced by Malen '499, Boissier '679 and Kessels '250, hydrochloric acid does not require water.

Applicants argue that the interpretation of the referenced passage in Hiler in terms of a relative sense is reinforced by a later passage in the same paragraph of Hiler.

Again nothing in the mentioned passage in Hiler suggests that "anhydrous" is a relative term. It should be noted that Hiler desires manganese chloride which are totally anhydrous (note column 11, lines 32-33) even though lower grade (not totally anhydrous) can be used in order to lower cost (note column 11, lines 35-38). Thus, when Hiler '464 teaches that "for the most exacting purity, it is desirable to use a manganese chloride, which has been made by the anhydrous route from the pure metal (note column 11, lines 38-41), "anhydrous" really means totally anhydrous. In any event, for the 103 rejection, since the totally anhydrous manganese chloride is desired in the process of Hiler, it would have been obvious to one skill in the art to optimize the process of making manganese chloride in order to produce a totally anhydrous product.

Applicants argue that the claimed temperature is lower than the disclosed range of 700 to 1000°C.

Applicants argue that the particle size and the pressure as claimed give substantial and surprising improvements with respect to reaction time that is not predictable.

The use of smaller particle size in order to increase reaction rate is well known and conventional in the art because the reactants must be in contact in order for them to react and the smaller the particle size, the higher the surface area to the contact. Hiler '464 does recognize, even though for another reaction, that in order to maximize reaction rate, measures are taken to keep particle size small and the surface area of the reactant as high as possible (note column 8, lines 16-20). Similarly, the affect of pressure on the reaction is also known and conventional in the art.

The temperature range disclosed in Hiler '464 is taken as an exemplified range, not an exclusive range and the disclosure of Hiler '464 should not be limited to just the exemplified range.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

"Basic College Chemistry" by Babor, J. A., Second edition, pages 255-260, is cited to teach the common known factors affecting the rate of a reaction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stanley Silverman can be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 or (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.

  
Ngoc-Yen M. Nguyen  
Primary Examiner  
Art Unit 1754

nmn  
March 6, 2006